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(56) Documents Cited
US 5558827 A US 5096760 A US 4488919 A

(58) Field of Search
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(54) Simulated bevelled leaded glass

(57) A simulated bevel 1 is injection moulded or vacuum formed from an acrylic polymer as a single piece with bevelled grooves 8 formed on the front surface and hollows 6 on the back surface. Multi-coloured transparent liquid setting gel is injected into the hollows prior adhering the edge 9 of the bevel to a glass or plastic sheet 10. Subsequently self-adhesive lead strips are bonded to the walls of the grooves.

FIG. 1

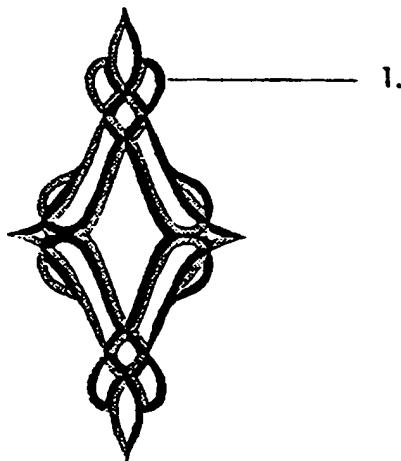
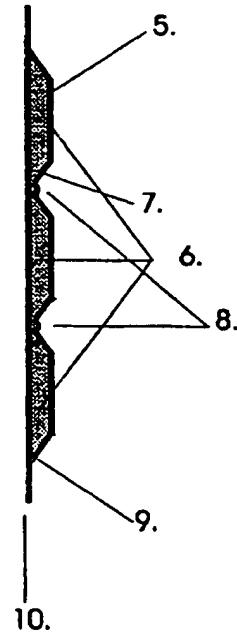


FIG. 3



GB 2 314 530 A

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FIG. 1

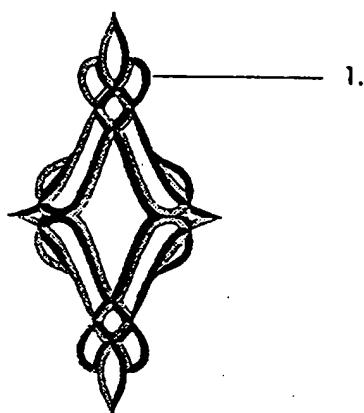


FIG. 2

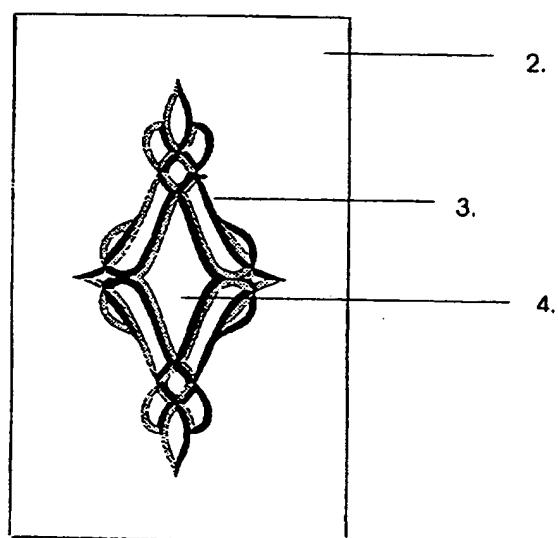
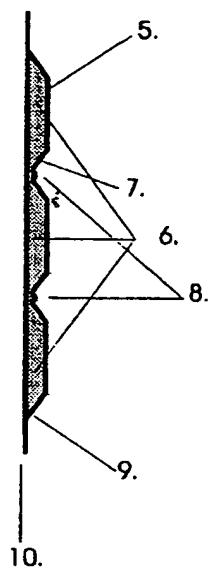


FIG. 3



METHOD OF MAKING MULTI-OPTICAL BEVEL.

Background of the invention.

1. TECHNICAL FIELD

This invention relates generally to decorative panels simulating the appearance of bevelled and leaded glass.

2. DESCRIPTION OF THE PRIOR ART.

Bevelled glass windows have for centuries adorned spectacular stately homes of the well-to-do. But during the Victorian era, bevelled glass windows were increasingly used as an integral part of the design of middle class homes. Bevelled glass traditionally is formed by grinding bevelled grooves in smooth surface panels of glass. This technique involves a time consuming process using expensive diamond grinding wheels and heads. Usually V-shaped bevelled grooves are formed and the bevelled glass is used with the application of lead came. When a leaded glass panel is formed, it is necessary to cut individual segments of glass, bevel their edges and then join such segments with grooved lead came. I claim a method for Multi-Optical stained and leaded glass panel which achieves the foregoing results.

BRIEF STATEMENT OF INVENTION.

Plastic/Polymer* multi-optical bevels are prepared in accordance with the invention by injection moulding or vacuum forming bevelled grooves of a particular shape in one side of the clear or coloured acrylic or plastic/polymer* leaving a flat surface around the edge of the bevel, and hollow effect on the reverse side. The bevelled grooves are formed with side walls from 3 degrees to 85 degrees. The multi-optical bevel can be clear or have an obscure pattern effect.

Transparent coloured setting gel can be inserted into the hollow part of the bevel prior to bonding to the flat sheet or coloured film can be applied to the flat surfaces of the bevel, thus providing simulated bevelled stained and leaded glass.

BRIEF DESCRIPTION OF THE DRAWINGS.

The invention may be more fully appreciated from the following detailed description of the preferred embodiment thereof taken in conjunction with the appended drawings wherein:

FIGURE 1 The plan view of the injection moulded or vacuum formed bevel design embodying this invention; The bevelled design is formed into a acrylic or plastic/polymer* bevel with a hollow reverse side.

Fig 1 1 The bevel is manufactured as one piece, with a visual effect of multiple bevel pieces.

FIGURE 2 The completed bevel which is then permanently fixed to a piece of glass or plastic/polymer sheet.

Fig 2 2 Glass or plastic sheet. 3 Self adhesive lead fixed in-between the grooves of the bevel design. 4 Hollow backed bevel fixed to flat sheet.

FIGURE 3 Is a cut through end view of the completed multi-optical bevel.

Fig 3 5 Multi-Optical Bevel. 6 Filling the hollow part of the bevel with transparent coloured setting gel (air bubbles can be left inside) to re-create the effect of traditional hand made glass or colour self adhesive film can be applied to the flat areas of the bevel. 7 Bevel segment grooves. 8 Between the grooves you can apply self adhesive lead strips. 9 Adhesive air tight seal to the outside edge of the bevel. 10 Glass or plastic/polymer* sheet

DETAILED DESCRIPTION OF A PREFERRED EPITOME

Referring now to Fig.1 Is a Injection moulded or vacuum formed bevel manufactured as one piece. The bevelled areas may be seen to be divided into a plurality of closed segments by bevelled grooves on the outer side of the bevel and hollow on the reverse side.

Referring now to FIG.2 is the completed view of the multi-optical bevel. The bevel which is permanently fixed on to a piece of glass or plastic with a air tight seal around the outside edge of the bevel were it meets the flat sheet. In a preferred epitome, the bevel is formed into repetitious patterns of design segments all enclosed with bevelled grooves. The lead strips are applied after the bevel is fixed to a flat sheet. The adhesive lead can be of various widths depending upon the desired effect.

Referring now to FIG.3 is a sectional side view of the bevel which has been permanently bonded along the edges of the bevel with an adhesive air tight seal onto glass or plastic/polymer* sheet. Coloured setting gel can be applied to the hollow of the bevel prior to fixing bevel to a flat surface. After leading it will give the effect of a traditional lead came panel. If the lead is not applied it gives the effect of a diamond cut panel.

The bevel can be formed into any complex bevelled patterns, any letters and numbers by using our technique which provides mass manufacturing capability.

It is understood that the epitome described above is merely an example of the application of the principles of this invention.

I claim:

1. The method of preparing a simulated multi-optical bevel on glass or plastic/polymer* sheet.
 - a. Injection moulding or vacuum forming a whole bevel design as one piece with a plurality of bevelled grooves having flat bevelled sidewalls with sharp edges (which can be formed with a clear or textured effect) and optical quality.
 - b. The multi-optical bevel is totally fixed to the glass or plastic/polymer* sheet by sealing the flat edge of the bevel to the sheet with an adhesive air tight seal.
 - c. Using the technique of forming the full bevel design in one piece so that the user can bond it onto glass or plastic/polymer* sheet in one operation.
 - d. By inserting self adhesive lead strips in-between the formed grooves of the bevel to create the finished design and applying various colour finishes to form a multi-optical simulated traditional stained glass panel.
2. The method of claim 1 wherein said step of forming the bevel (either clear or textured) with raised bevelled edge segments to create a design on the front surface of the bevel and hollow on the reverse side.
3. Each bevelled segment has space to apply self adhesive lead strips if required, thereby simulating lead came.

We want to emphasise that the multi-optical injection moulded or vacuum formed bevel is fixed to glass or plastic/polymer* sheet.

Amendments to the claims have been filed as follows

I claim:

1. A method of preparing a simulated multi-optical bevel on glass or plastic sheet.
 - a. Injection moulding or vacuum forming of plastic or acrylic into a whole bevel design as one piece with a plurality of bevelled grooves having flat bevelled sidewalls with sharp edges to create a design on the front surface of the bevel and hollow(s) on the reverse side, the bevel being formed with a clear or textured effect. The bevelled grooves are formed with sidewalls from 3 degrees to 85 degrees.
 - b. colouring the reverse side of the bevel,
 - c. adhering the bevel along the edge thereof to a glass or plastic sheet so as to form an airtight seal therewith,
 - d. inserting self adhesive lead strips into the grooves to simulate lead came.
2. A method of preparing a simulated multi-optical bevel as claimed in claim 1 wherein step b) colour is applied by using coloured setting gel or coloured film.



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Application No: GB 9722593.2
Claims searched: 1-3

Examiner: Graham Russell
Date of search: 19 November 1997

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): B6G (GE); E1R (RS)

Int Cl (Ed.6): B44C 5/08; B44F 1/06

Other: Online: EDOC, WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
Y	US 5558827 (HOWES) see column 3 lines 56-58 and column 8 lines 16-31	1
Y	US 5098760 (STAINED GLASS) see column 1 line 66 - column 2 line 16 and column 5 lines 28-37	1
Y	US 4488919 (STAINED GLASS) see column 2 lines 19-52 and column 5 lines 37-43	1

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.